

ABSTRACT

5 A broadband ellipsometer is disclosed with an all-refractive optical system for
focusing a probe beam on a sample. The ellipsometer includes a broadband light
source emitting wavelengths in the UV and visible regions of the spectrum. The
change in polarization state of the light reflected from the sample is arranged to
evaluate characteristics of a sample. The probe beam is focused onto the sample using
10 a composite lens system formed from materials transmissive in the UV and visible
wavelengths and arranged to minimize chromatic aberrations. The spot size on the
sample is preferably less than 3mm and the aberration is such that the focal shift over
the range of wavelengths is less than five percent of the mean focal length of the
system.